REMARKS/ARGUMENTS

Applicants amended the claims to correct minor errors and to place the claims in better condition for allowance or appeal.

Claim 4 is amended to change "the one or more agents" to "one or more agents" to provide the antecedent basis for this element.

Claim 6 is amended to remove "by" to correct grammar.

Claim 7 is amended to remove an inadvertently redundant instance of a phrase.

Claim 8 is amended to remove a phrase that is redundant because it is recited in the base claim and to make the correction noted by the Examiner in his Objection.

Claim 9 is amended to add an "is" to correct the grammar.

Claim 10 is amended to correct the grammar.

Claim 11 is amended to correct the grammar and to remove an inadvertently redundant instance of a phrase.

Claim 20 is amended to include an "indicative of" to correct the grammar.

The Examiner rejected claims 1-23 as obvious (35 U.S.C. §103(a)) over Crockett (U.S. Patent No. 5,504,861). Applicants traverse for the following reasons.

Claim 1 recites a system for managing a network components, including storage devices and digital data processors, comprising: a first component that maintains a first representation of a topology of the storage devices and digital data processors in the network and that generates an event notification indicative of a change to the topology with respect to the network; a second component in communication with the first component, the second component maintaining a second representation of the topology and responding to the event notification by accessing the first representation; determining a discrepancy between the event notification and an attribute of any of the first and second representations; selectively disregarding the event notification or recovering the second representation from one or more attributes of the first representation in response to determining the discrepancy.

The Examiner cited col. 2, lines 58-62 and col. 7, lines 34-44 of Crockett as teaching the requirements of these claims. (Final Office Action, pgs. 2-3, 19) The cited col. 2 mentions that an object is to provide a design to shadow write updates at a primary site to a secondary site so that the writes to the secondary site are optimized with full recovery capabilities. The cited col. 7 mentions specific sense information from the primary storage controller regarding the failure

of an I/O write operation. An I/O ERP (error recovery program) may perform peer-to-peer synchronization error recovery to maintain data integrity between a primary and secondary storage controller.

The Examiner recognized that Crockett does not teach maintaining a copy of topology information and took Official Notice to have the disaster recovery information of Crockett's design be topology information since topology information is a form of disaster recover information. (Final Office Action, pg. 3). Applicants traverse this finding.

Even if one were to modify Crockett to shadow writes to topology information to a secondary site, this modified Crockett still does not teach the claim requirements. The Examiner has not cited any part of Crockett that teaches that the second component accesses the first representation and determines a discrepancy between an event notification indicative of a topology change, and then selectively disregard the event notification or recover the second representation in response to the discrepancy.

Further, although Crockett discusses detecting an I/O write error and synchronization for error recovery, the Examiner has not cited any part of Crockett that mentions providing a second component an event notification indicative of a change in the topology or data of Crockett. The cited error recovery of Crocket concerns a failure of an I/O write operation. The claims however do not concern the cited error recovery of Crockett, and instead require an event notification of a change to the topology. This not an error as mentioned in Crockett. This claimed event notification then causes the second component to determine whether there is a discrepancy in the representations of the topology. The Examiner has not cited any part of Crockett that teaches or suggests that the secondary site of Crockett receives an event notification of a change to data, and then checks for a discrepancy between the first and second representations. Instead, the cited Crockett discusses how to handle a failure of a write operation and a peer-to-peer synchronization error recovery. (Crockett, col. 7, lines 40-44)

The Examiner further cited col. 2, line 63 to col. 3, line 39; col. 9, line 52 to col. 10, line 9; and col. 10, line 54 to col. 11, line 37 (Final Office Action, pgs. 3, 19). These cited sections are similarly deficient for the following reasons. The cited cols. 2-3 discuss shadowing record updates at a secondary site that provides disaster recovery capability for the primary system. The primary site collects updates, forms consistency groups and sends the updates to the secondary site. The cited cols. 9-10 discuss that the primary controllers synchronize to a sysplex clock.

The cited cols. 10-11 discuss data shadowing. These cited sections fail to teach the claim requirements for the reasons discussed above.

Thus, even if one were to modify Crockett as the Examiner proposes, the suggested modifications still nowhere teaches or suggests the claim requirements of determining, in response to an event notification indicative of a change to a topology, a discrepancy between the event notification and attributes of the first and second representations and then selectively disregarding the notification or recovering the second representation.

Moreover, Applicants traverse the Examiner's use of Official Notice to justify modifying Crockett to synchronize topology information and request that the Examiner cite art supporting the modification the Examiner proposes. Applicant's traverse this use of Official Notice because the Examiner has not shown why providing synchronizing multiple representations of topology information on multiple components as claimed is common knowledge. Applicants submit that it is not appropriate for the Examiner to take Official Notice here because the facts are not capable of instant and unquestionable demonstration as being well known. See, Manual of Patent Examination and Procedure (MPEP) Sec. 2144.03.

Applicants further submit that the use of Official Notice in this Final Office Action is inappropriate because, according to the MPEP, "[w]hile 'official notice' may be relied on, these circumstances should be rare when an application is under final rejection or action under 37 CFR 1.113." Id.

Accordingly, claim 1 is patentable over the cited art because the cited Crockett does not disclose all the claim requirements.

Claims 2-7 are patentable over the cited art because they depend from claim 1, which is patentable over the cited art for the reasons discussed above. Moreover, the following discussed claims provide further grounds of patentability over the cited art.

Claim 2 recites that the network further includes a plurality of hosts, each coupled with one or more storage devices over the network; one or more agents each associated with one or more of the hosts, each agent generating a scan identifying attributes of any of (i) the host with which it is associated, (ii) one or more of the storage units to which that host is coupled, and (iii) a relationship therebetween; and wherein the agents are in communication coupling with the first component, wherein the agents transmit the scan to the first component.

The Examiner cited the above discussed sections of col. 2, lines 58-62, col. 9, line 52 to col. 10, line 9; col. 10, line 54 to col. 11, line 37 as disclosing the requirements of claim 2. (Final Office Action, pgs. 3-4) Applicants traverse.

The cited col. 2 mentions that writes at a primary site are shadowed at a secondary site with full recovery capabilities. The cited cols. 9-10 discuss how applications at the primary site synchronize to a sysplex clock, and the cited cols. 10-11 discus how record updates are gathered and sent to the secondary site. Nowhere do these cited sections of Crockett anywhere teach or suggest the claim requirements of agents generating a scan of hosts and storage units to which the host is coupled and the relationship, and that the agents transmit the scans to the first component.

The Examiner further found that agents are inherent in the design. Applicants submit that whether or not agents are "inherent", the Examiner has not cited any part of Crockett that teaches or suggests agents generating a scan identifying attributes of any of (i) the host with which it is associated, (ii) one or more of the storage units to which that host is coupled, and (iii) a relationship therebetween.

Accordingly, claim 2 provides additional grounds of patentability over the cited art because the cited Crockett fails to disclose all the additional requirements of claim 2.

Claim 7 depends from claim 1 and further requires functionality that recovers the second representation by performing at least one of the following operations: i) clearing the second representation and rebuilding that representation from attributes of the first representation; ii) comparing the first and second representations in whole or in part, and copying from the first representation to the second representation attributes missing from the latter, while any of deleting or marking as missing attributes in the second representation indicative of components present in the second representation but not in the first representation; and iii) copying from the first representation to the second representation one or more attributes indicative of any of (a) a component or relationships represented by an attribute in connection with which the discrepancy occurred, and (b) a component or relationship in a region represented by an attribute in connection with which the discrepancy occurred.

The Examiner cited the above discussed sections of Crockett as disclosing the additional requirements of claim 7. (Final Office Action, pgs. 6-7) Applicants traverse.

As discussed, the above cited Crockett discusses how to mirror updates to a primary site to a secondary site. The Examiner has not cited any part of Crockett that teaches or suggests the specific claimed functionality that recovers the second representation by performing at least one of the following operations: i) clearing the second representation and rebuilding that representation from attributes of the first representation; ii) comparing the first and second representations in whole or in part, and copying from the first representation to the second representation attributes missing from the latter, while any of deleting or marking as missing attributes in the second representation indicative of components present in the second representation but not in the first representation; and iii) copying from the first representation to the second representation one or more attributes indicative of any of (a) a component or relationships represented by an attribute in connection with which the discrepancy occurred, and (b) a component or relationship in a region a component or relationships represented by an attribute in connection with which the discrepancy occurred.

In the cited sections of Crockett there is no mention or disclosure of the above discussed functionality to handle a discrepancy between an event notification concerning a change to a network topology and the first or second representations of that topology as claimed.

The Examiner further took Official Notice that it would be obvious to modify Crockett to mirror topology data. (Final Office Action, pg. 7) Applicants traverse this finding and use of Official Notice for the reasons discussed above.

Accordingly, claim 7 provides additional grounds of patentability over the cited art because the cited Crockett fails to disclose all the additional requirements of claim 7.

Claim 8 recites a system for managing a network of components, including storage devices and digital data processors, comprising: a first component that maintains a first representation of a topology of the storage devices and digital data processors in the network and that generates an event notification indicative of a change to the topology with respect to the network; a second component in communication with the first component, the second component maintaining a second representation of the network and responding to the event notification by: accessing the first representation; disregarding the event notification in response to determining at least one of: i) the event notification is indicative of addition of a new component to the network and an attribute of the first representation is indicative of absence of that component; ii) the event notification is indicative of addition of a relationship between components of the

network and an attribute of the first representation is indicative of absence of that relationship; iii) the event notification is indicative of addition of a relationship between components of the network and an attribute of the second representation is indicative of the absence from the network of one of the components to that relationship; iv) the event notification is indicative of a missing component of the network and an attribute of the second representation indicative of the absence of that component from the; v) the event notification is indicative of a missing component of the network and an attribute of the second representation indicates representation of that component in the second representation, but the absence of that component from the; vi) the event notification is indicative of a missing relationship between components of the network and an attribute of the second representation indicative of absence of that relationship in the second representation; or vii) the event notification is indicative of a missing relationship in the network and an attribute of the second representation indicates inclusion of that relationship in the second representation, but the absence of that component from the network.

The Examiner cited the same sections of Crockett cited with respect to claim 1 against claim 8. (Final Office Action, pgs. 7-9) Applicants traverse.

Claim 8 is patentable over the cited Crockett for the reasons discussed with respect to claim 1, because claim 8 includes many of the limitations of claim 1 that distinguish over the cited Crockett. Further, claim 8 provides additional requirements concerning when the event notification is disregarded. Applicants submit that nowhere does the cited Crockett anywhere disclose any one of the specific seven occurrences that result in disregarding an event notification on a topology change. Instead, the cited Crockett discusses copying updates to a secondary storage (DASD) to maintain a write order.

Accordingly, claim 8 is patentable over the cited art because the requirements of claim 8 are not disclosed in the cited Crockett.

The Examiner cited the same sections of Crockett cited with respect to claim 1 against claim 9. (Final Office Action, pgs. 9-10) Applicants traverse.

Claim 9 is patentable over the cited Crockett for the reasons discussed with respect to claim 1, because claim 9 includes many of the limitations of claim 1 that distinguish over the cited Crockett. Further, claim 9 provides additional requirements concerning determining the discrepancy and selectively recovering the second representations in response to any of the listed four occurrences. Applicants submit that the Examiner has not cited any part of Crockett that

discloses any one of the specific occurrences that result in selectively recovering the second representation. Instead, the cited Crockett discusses copying updates to a secondary storage (DASD) to maintain a write order.

Accordingly, claim 9 is patentable over the cited art because the requirements of claim 9 are not disclosed in the cited Crockett.

Claim 10 includes the requirements of amended claim 1 in method format. The Examiner cited the same sections of Crockett cited with respect to claim 1 against claim 9. (Final Office Action, pgs. 11-12) Applicants traverse. Claim 10 is patentable over the cited Crockett for the reasons discussed with respect to claim 1 because claim 10 includes the requirements of claim 1 in method form.

Claims 11-23 are patentable over the cited art because they depend from claim 10, which is patentable over the cited art for the reasons discussed above.

Claim 11 provides further details on the recovering operations to recover the second representation of the topology. Applicants submit that these recovery operations are not disclosed in the cited Crockett. Instead, the cited Crockett discusses copying updates to a secondary storage (DASD) to maintain a write order.

Claims 12-23 provide further details on the operations of determining the discrepancy which results in either disregarding the notification or recovering the second representation. Applicants submit that these further claimed details of determining the discrepancy in these claims is not disclosed in the cited Crockett because the cited Crockett discusses copying updates to a secondary storage (DASD) to maintain a write order, and does not disclose the claimed operations for determining a discrepancy between an event notification and attributes of one of the first and second representations.

<div align="center">Conclusion</div>

For all the above reasons, Applicant submits that the pending claims 1-23 are patentable over the art of record. Applicants submit that no fee is needed for the claim amendments. Nonetheless, should any additional fees be required, please charge Deposit Account No. 09-0466.

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The attorney of record invites the Examiner to contact him at (310) 553-7977 if the Examiner believes such contact would advance the prosecution of the case.

Dated: July 16, 2006   By:_____/David Victor/_____

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